

QUESTIONS AND ANSWERS

PLEASE REFER TO THE GENERAL FAQs SECTION OF ARPA-E'S WEBSITE ([HTTP://ARPA-E.ENERGY.GOV/?Q=FAQ/GENERAL-QUESTIONS](http://arpa-e.energy.gov/?Q=FAQ/GENERAL-QUESTIONS)) FOR ANSWERS TO MANY GENERAL QUESTIONS ABOUT ARPA-E AND ARPA-E'S FUNDING OPPORTUNITY ANNOUNCEMENTS. ADDITIONAL QUESTIONS SPECIFIC TO THIS FOA ONLY ARE INCLUDED BELOW. PLEASE REVIEW ALL EXISTING GENERAL FAQs AND FOA-SPECIFIC QUESTIONS BEFORE SUBMITTING NEW QUESTIONS TO ARPA-E.

I. Full Application Phase Questions:

Q1. I have several questions regarding the SEED topic on DE-FOA-0001954:

Non-carbothermic smelting technologies

- a) Is the focus of this topic on developing new chemistries or process for smelting from raw materials or is secondary aluminum processing also included in this topic?
- b) Is a recycling and integrated smelting technology included in this scope of topic, or is the inclusion of recycling out of scope?
- c) Are there any target metrics, and what are they?
- d) What are the anticipated deliverables?

ANSWER:

- a) Applicants are encouraged to refer to Section XVI. Appendix G. Part 2.A. of the FOA: the solicitation is open. The focus of the non-carbothermic smelting subtopic is the smelting of raw materials.
- b) Applicants are encouraged to refer to Section XVI. Appendix G. Part 2.A. of the FOA: the solicitation is open.
- c) Applicants are encouraged to propose and justify their own metrics that ensure the concept they are submitting has the potential to achieve significant reductions in U.S. energy consumption (measured in quads), energy-related imports (measured in quads), or energy-related emissions (measured in megatons/gigatons of CO₂ or CH₄, etc.).
- d) Applicants are encouraged to propose and justify project deliverables most appropriate to the particulars of their proposal.

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**Q2. I have several questions regarding the SEED topic on DE-FOA-0001954:
Environmental Sensors capable of operation in deep ocean environments for
mining polymetallic nodules**

- a) Which sensors are expected to propose a solution to this topic?**
- b) To what depth are the sensors expected to be used at?**
- c) Should this be a self- contained unit for use by a human in real time?**
- d) Should this take the form of an autonomous robot which can survey and collect the data on its own?**
- e) Are there any target metrics, and what are they?**
- f) What are the anticipated deliverables?**

ANSWER:

- a) Applicants are encouraged to justify and propose any sensor that can aid with mining polymetallic nodules.**
- b) Applicants can propose sensors capable of operation in deep ocean environments for mining polymetallic nodules, at depths of 5500m or greater.**
- c) Applicants are encouraged to refer to Section XVI. Appendix G. Part 2.A. of the FOA: the solicitation is open.**
- d) Applicants are encouraged to refer to Section XVI. Appendix G. Part 2.A. of the FOA: the solicitation is open.**
- e) Applicants are encouraged to propose and justify their own metrics that ensure the concept they are submitting has the potential to achieve significant reductions in U.S. energy consumption (measured in quads), energy-related imports (measured in quads), or energy-related emissions (measured in megatons/gigatons of CO₂ or CH₄, etc.).**
- f) Applicants are encouraged to propose and justify project deliverables most appropriate to the particulars of their proposal.**

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Q3: I have several questions regarding the SEED topic on DE-FOA-0001954: Advanced trees and other engineered biological systems for carbon sequestration

- a) Is there a specific tree or plant which should be targeted?
- b) Would the integration between roots, soil and microbes collectively address this topic, or is this focused on agriculture only?
- c) Should the focus be a genetics-based project or a combination of genotype and phenotype?
- d) Should the focus be on developing the hardware tool technologies which would enable the discovery of the biological systems, should it be focused on solely genetic based experimentation, or should it be focused on a combination of both?
- e) Are there any target metrics, and what are they?
- f) What are the anticipated deliverables?

ANSWER:

- a) Applicants are encouraged to propose and justify any tree/plant species or biological system they determine has the potential to achieve eventual megaton to gigaton scale carbon sequestration.
- b) Engineering root-microbe-soil interactions is in scope of this topic, as is focusing specifically on a plant system.
- c) Applicants may choose to focus on genotype and/or phenotype, as is most appropriate for the particulars of their proposal.
- d) Applicants may choose to focus on hardware tools and/or genetic based experimentation, as is most appropriate for the particulars of their proposal.
- e) Applicants are encouraged to propose and justify their own metrics that ensure the concept they are submitting has the potential to achieve significant reductions in U.S. energy consumption (measured in quads), energy-related imports (measured in quads), or energy-related emissions (measured in megatons/gigatons of CO₂ or CH₄, etc.).
- f) Applicants are encouraged to propose and justify project deliverables most appropriate to the particulars of their proposal.

Q4.a I have a quick question. I noticed that in the technological areas of interest for SEED STTR, one of them is: "Advanced bioreactors for the production of complex, value-added materials to significantly reduce greenhouse gas emissions" ... however we work with chemical reactors rather than bioreactors. Is that still within the areas of interest?

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Q4.b We are interested in submitting to DE-FOA-0001954 Topic G, as we have identified a disruptive concept in the field of energy generation. However, the field we are suggesting is not covered explicitly in the "Technical Areas of Interest" portion of the announcement. ...

Q4.c I am writing to see if there is interest from the SEED program in developing an innovative solar cell. ...

Q4.d We would like to submit [a] proposal having a potential for high impact in ARPA-E Mission Areas. ... My question: Can we submit our proposal in response to DE FOA DE-FOA-0001954? ...

ANSWER (FAQs 4a-d): As stated in Section 2.A of Appendix G, applications are sought that address one or more of ARPA-E's Mission Areas (see Section I.A.). The solicitation is open and applicable concepts should have the potential to achieve significant reductions in U.S. energy consumption (measured in quads), energy-related imports (measured in quads), or energy-related emissions (measured in megatons/gigatons of CO₂ or CH₄, etc.).

Q5. On page 10 of DE-FOA-0001954 it says "Applicants must apply for a Combined Phase I/II/III Award." However, in the special program announcement for Topic G, anticipated awards "that are over \$250,000 will be issued as Phase I/II grants." Can ARPA-e please clarify that proposals are only supposed to cover Phase I/II and not Phase I/II/III for Topic G?

ANSWER: As set forth in Appendix G: *Awards that are over \$250,000 will be issued as Phase I/II grants, with a go/no-go milestone at the end of Phase I.*

Q6. I am e-mailing to obtain more information about the page limits and requirements for the technical volume specifically for the SEED program. In the appendix, templates for the full application referred to this email address, and the solicitation noted that the requirements of the SEED program [are] different from that of the standard solicitation.

ANSWER: The Technical Volume template can be found in the file titled *Technical Volume Template_DE-FOA-0001954 (Fixed-Amount Grant)* under the heading Required Application Documents at <https://arpa-e-foa.energy.gov/Default.aspx#Foald4edadf42-12aa-4916-bf6a-b560a6f20e95>.

Q7. I have a question concerning DE-FOA-0001954 the targeted topic G: Supporting Entrepreneurial Energy Discoveries (SEED). [Description omitted] ... but which category should we select?

ANSWER: Refer to question 4 above.

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Q8. I am writing to ask you a couple of questions, in the hopes that you can guide us to the right parts of the FOA and other DOE documentation.

Q8.a What does the commercial partner need to do? Commit to providing matching funds? Describe a route to commercialization?

ANSWER: The term “commercial partner” is not used or defined in this FOA or under this Targeted Topic. Eligibility requirements for participating in this FOA are set forth at its Section III.A. As described at Appendix G, Section 3, cost share is not required for this Targeted Topic.

Q8.b What is the deadline? We are confused because the FOA at <https://arpa-e-foa.energy.gov/Default.aspx> for DE-FOA-0001954, states "FA Deadline is 9:30 AM ET 10/8/19" for item G, and "Full Application Submission Deadline: 12/19/2019 5:00 PM ET" for the entire topic.

ANSWER: DE-FOA-0001954 utilizes a process of Targeted topics for Full Application Submissions. The Targeted Topics Table in the Funding Opportunity Announcement lists topic-specific application due dates. The deadline to submit full applications to DE-FOA-0001954, Topic G, is October 8, 2019 at 9:30 AM Eastern Time.

Q9. I have a question relating the teaming arrangement for the solicitation on Topics Informing New Program Areas (DE-FOA-0001954) “Supporting Entrepreneurial Energy Discoveries (SEED)”. ... For the SEED projects, does the Small Business Concern still have to apply as the lead organization? ...

ANSWER: Yes.

Q10. [We have] technology that meets the criteria for the SEED program. Would it be possible [for] a review of the concept? ...

ANSWER: ARPA-E will not Pre-Assess an applicant’s proposed submission. Also, refer to the response to Question 4 above.

Q11. Could you please tell us under which program the current SEED Proposal is going to be in and the corresponding project manager?

ANSWER: Refer to the response to Question 4 above. All communications with ARPA-E shall be accomplished as set forth at FOA Section VII.A.

Q12. Could you please define what you mean by “complex” under the proposed topic area: Advanced bioreactors for the production of complex, value-added materials to significantly reduce greenhouse gas emissions [refer to Appendix G, Paragraph 2.A]? Does H₂, CO₂, or Ammonia qualify as a complex product?

ANSWER:

ARPA-E is defining “complex” for this topic as multi-material products or structured materials, such as (but not limited to) cell-based meat. H₂, CO₂, and/or ammonia are not consider complex products in this instance.

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Q13. I have two quick questions. ... For this DE-FOA-0001954 (Topic: G: Supporting Entrepreneurial Energy Discoveries (SEED)), we have prepared a proposal for a duration of 12 months covering a Phase I SBIR application. The prepared proposal has some overlap (less than 40%) with our under-review proposal for [another Federal agency's] SBIR Phase I [program].

Q13.a Do you think this small overlap is acceptable from your program perspective?

ANSWER: Refer to FOA Section III.F. Applications not distinct in scientific approach or objective from activities currently supported by or actively under consideration for funding by other government agencies or the private sector are non-responsive to this funding opportunity.

Q13.b Is there any exception of submitting the full proposal with less than one week delay due to technical issues?

ANSWER: No.